

personal commun., 2002). The redheads feed almost exclusively on a particular type of seagrass *Halodule* while in residence. However, this species of seagrass has suffered a 30 percent reduction in recent years. Turbidity associated with maintenance dredging in the Gulf Intracoastal Waterway and the recurrence of brown tide (an extensive phytoplankton bloom) have been implicated in the seagrass decline (Chris Onuf, USGS, personal commun., 2002).


Padre Island National Seashore, which separates the Laguna Madre from the Gulf of Mexico, is the longest undeveloped barrier island in the United States. The National Seashore contains extensive marine, estuarine, and wetland communities including salt marshes, ephemeral ponds, and wind tidal flats that provide critically important habitat for more than 300 bird species and five species of threatened or endangered sea turtles . Padre Island is also the site of a successful binational recovery program for the endangered Kemp's Ridley sea turtle (fig. 5). The species' only other major nesting site is near Rancho Nuevo in Mexico. Threats to the water quality of the area include oil and gas development, potential spills resulting from transportation of oil and hazardous materials, impacts of dredging, and the deposition of marine debris along the Gulf beaches. Because of the local currents, the shoreline along the Gulf of Mexico is heavily impacted by trash that is washed ashore from a variety of sources, including commercial shrimping, oil and gas production, and shipping activities (Miller and others, 1995). Oil spills have also periodically damaged areas along both the Gulf of Mexico and Laguna Madre. There exists the possibility of opening up the lower Laguna Madre south of the international border to barge traffic, thus allowing the increased transport of hazardous materials along the National Seashore's western side.



Figure 5. Kemp's Ridley sea turtle.



Figure 6. Generalized hydrologic information from the Rio San Juan Reservoir to the Gulf of Mexico.